

A supplement for use with

STAR TREK[®]
THE ROLE PLAYING GAME

STAR TREK Tricorder/Starship Sensors Interactive Display

A rectangular panel with a silver border. The left side is divided into four quadrants, each containing a red line graph. The right side features three blue rectangular buttons stacked vertically and three black oval buttons stacked vertically.

A rectangular panel with a silver border. At the top, it is labeled "REMOTE PROBES". In the center is a large, glowing orange sphere. To the right is a grid of 15 black circular buttons arranged in three columns and five rows. Below the sphere is a blue rectangular slot.

A rectangular panel with a silver border. It features four horizontal black bars with red dots indicating levels. Below the bars is the text "POWER LEVELS".

A rectangular panel with a silver border. On the left side, there are five circular indicators. To the right of each indicator is a horizontal white bar with a red line graph. Below these is a black horizontal bar with a red dot.

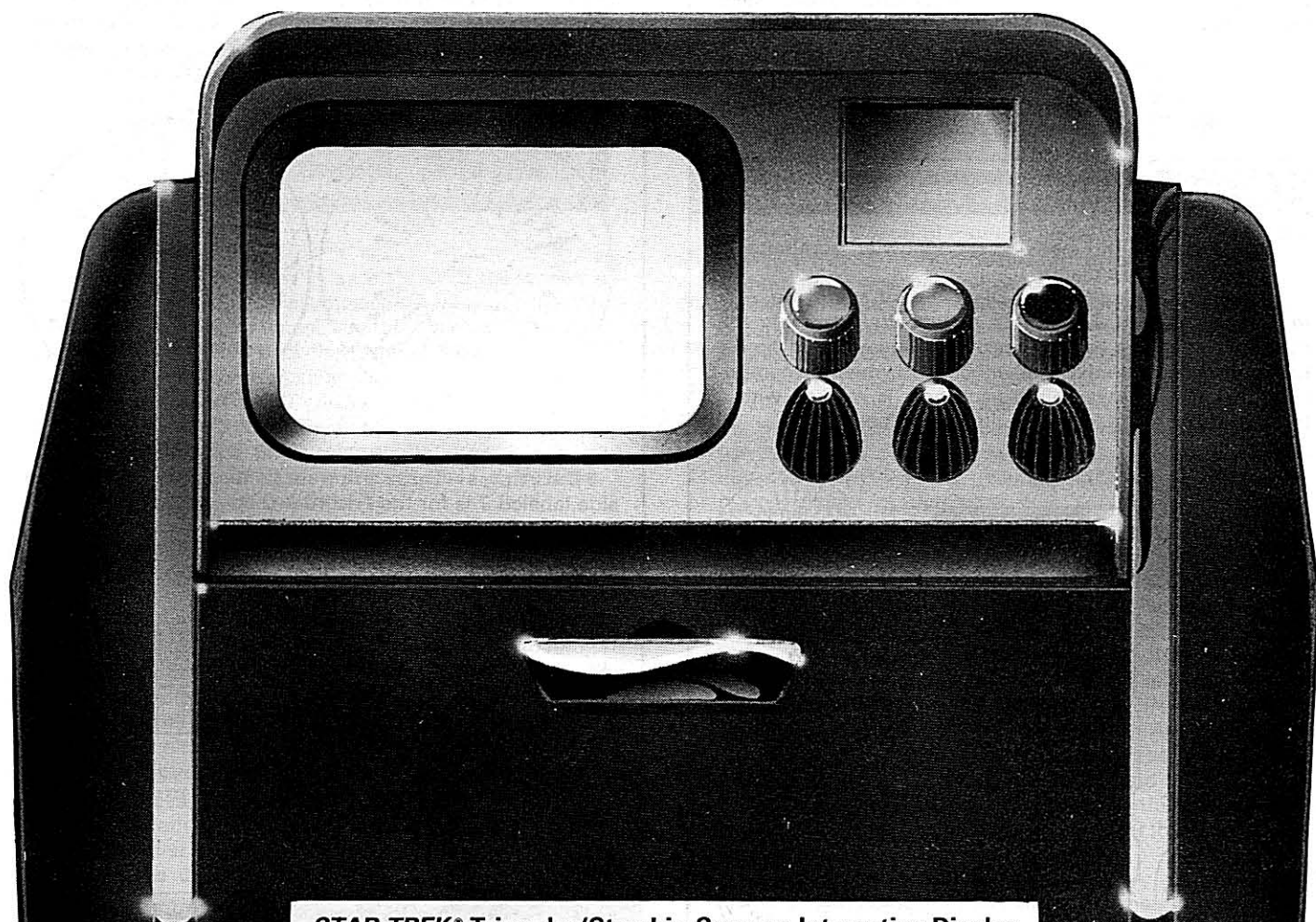
A square panel with a blue border. At the top center is a black logo featuring a stylized 'S' and 'T' inside a teardrop shape. Below the logo is the text "fasa". The bottom right corner features a cluster of red hexagonal patterns. At the bottom, it is labeled "MEMOREY ACCESS".

STARDATE

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STAR TREK® Tricorder/Starship Sensors Interactive Display



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A supplement for use with *Star Trek: The Role Playing Game*

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Introduction

The colonists' message was abruptly cut off, but there was mention of Klingons. You and your landing party have found neither colonist nor Klingon, and now the fog has rolled in.

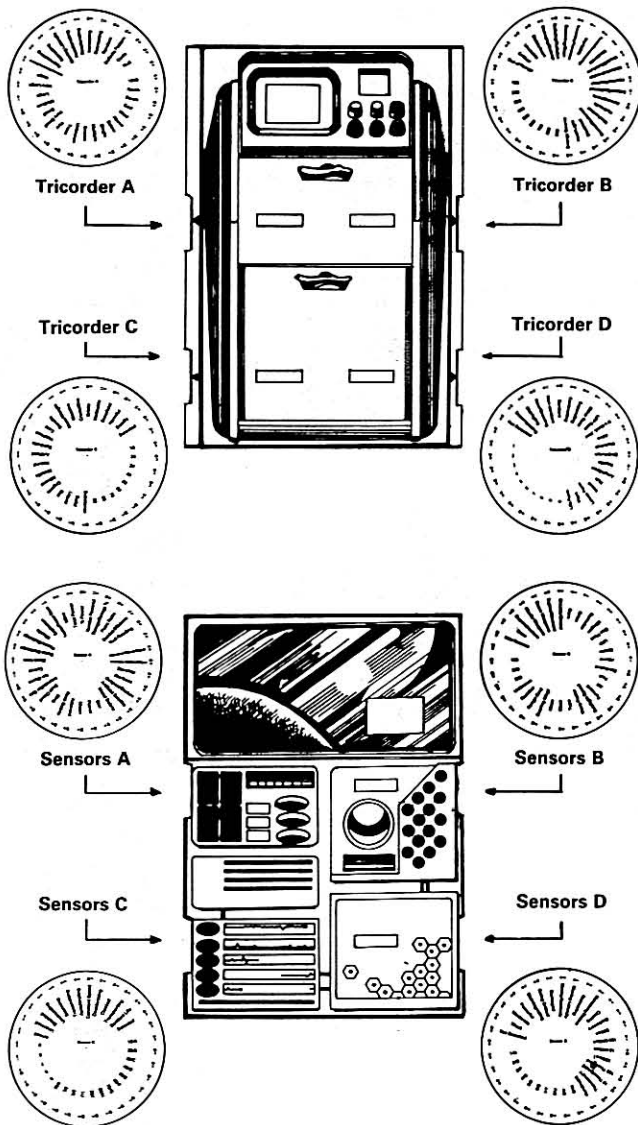
"Science Officer, take a tricorder reading." A familiar whine fills the air.

"Captain, I'm picking up a life-form reading..."

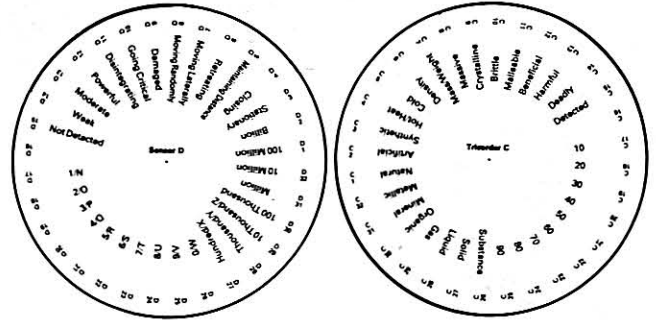
COMPONENTS PROVIDED

In addition to this booklet, the following components are provided for this display:

Tricorder Display/Sensors Display – Full color card, with the displays printed side by side, so that after assembly, the two displays will be back-to-back. The displays have die-cut holes in them where the data will be read when the components have been assembled; each hole is marked with a letter corresponding to one of the Data Wheels.



4 Data Wheels – These wheels are printed on both sides and have mounting holes in the center. They are marked with letters corresponding to the appropriate locations on the Display; the side marked *T* is for the Tricorder Display, and the side marked *S* is for the Sensors Display.



5 Data Strips – These strips are printed on both sides. The side labeled *T* is for the Tricorder Display; it is printed with a red overlay so that the information on it cannot be read easily without inserting it into the Tricorder Display. The side labeled *S* is for the Sensors Display.

	1. Temperature	2. Humidity	3. Air Pressure	4. Wind Speed	5. Wind Direction	6. Cloud Cover	7. Visibility	8. Barometric Pressure	9. Solar Radiation	10. Ultraviolet Radiation	11. Infrared Radiation	12. Gamma Radiation	13. X-ray Radiation	14. Cosmic Ray Flux	15. Neutron Flux	16. Proton Flux	17. Alpha Particle Flux	18. Beta Particle Flux	19. Gamma Spectrum	20. X-ray Spectrum	21. Cosmic Ray Spectrum	22. Neutron Spectrum	23. Proton Spectrum	24. Beta Spectrum	25. Alpha Spectrum
T	1. Temperature	2. Humidity	3. Air Pressure	4. Wind Speed	5. Wind Direction	6. Cloud Cover	7. Visibility	8. Barometric Pressure	9. Solar Radiation	10. Ultraviolet Radiation	11. Infrared Radiation	12. Gamma Radiation	13. X-ray Radiation	14. Cosmic Ray Flux	15. Neutron Flux	16. Proton Flux	17. Alpha Particle Flux	18. Beta Particle Flux	19. Gamma Spectrum	20. X-ray Spectrum	21. Cosmic Ray Spectrum	22. Neutron Spectrum	23. Proton Spectrum	24. Beta Spectrum	25. Alpha Spectrum
A	1. Temperature	2. Humidity	3. Air Pressure	4. Wind Speed	5. Wind Direction	6. Cloud Cover	7. Visibility	8. Barometric Pressure	9. Solar Radiation	10. Ultraviolet Radiation	11. Infrared Radiation	12. Gamma Radiation	13. X-ray Radiation	14. Cosmic Ray Flux	15. Neutron Flux	16. Proton Flux	17. Alpha Particle Flux	18. Beta Particle Flux	19. Gamma Spectrum	20. X-ray Spectrum	21. Cosmic Ray Spectrum	22. Neutron Spectrum	23. Proton Spectrum	24. Beta Spectrum	25. Alpha Spectrum

4 Brass Mounting Fasteners

CONTENTS OF THIS BOOKLET

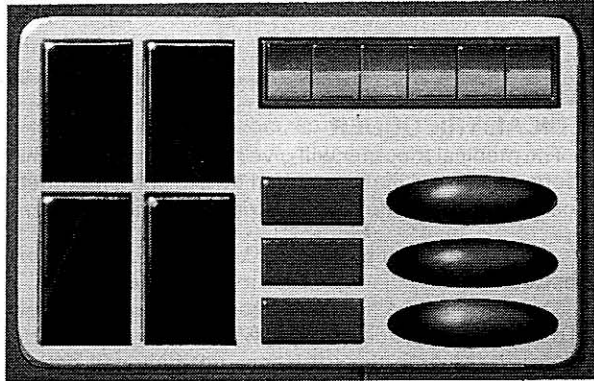
This booklet contains all the information needed to add the Tricorder/Sensors Display to *STAR TREK* role play games. It provides instructions in preparing the Display for use and for setting and reading data on the display. It also provides rule systems for using tricorders and sensors, with examples appropriate to the Display. Appendices at the end list all the elements on each Data Wheel and Data Strip, the types of stars, the types of planets, and the types of starships.

PREPARING THE DISPLAY

Carefully remove all die-cut windows from the Display and center holes from the Data Wheels.

Arrange the Display so that the Tricorder Display is facing up, and so are the sides of all four Data Wheels marked with a *T*. Open the Display like a book, so that the Sensors Display is flat on the table, face down.

Place the Data Wheels on the upside-down Sensors Display so that the wheel marked *A* is behind the window marked *A* on the Tricorder Display and so on. Position the center hole of each wheel so that it is directly over the hole in the card below it.



Fold the card together like a book, with the wheels between the two Displays. Fasten each wheel with a brass fastener, insuring that the wheels are fixed in place behind their proper windows. Fold back the fastener tabs.

For use as a tricorder, slide a Data Strip into the Display so that the side marked *T* shows through the red window on the Tricorder Display side. For use as a sensors display, slide a Data Strip into the Display so that the side marked *S* shows through the window on the Sensors Display side.

The Display is now ready to use.

USING THE DISPLAY

A player uses the Tricorder or Sensors Display during an adventure when he wants to take a tricorder reading to get information that his character does not know. The gamemaster provides a series of letter and number elements that will let the player use the display to give information that the gamemaster would otherwise have to provide as a verbal description.

DATA WHEEL ELEMENTS

Each letter/number element locates a particular piece of data on the display. The first part of each element is a letter that indicates the Data Wheel where the piece of data is printed. The second part of each element is a number that tells the proper piece of data on the wheel. **Appendix A** lists all of the elements for the Tricorder Data Wheels, and **Appendix B** lists all of the elements for the Sensors Data Wheels.

For example, the letter/number element *D15* tells that the information is on Data Wheel D and that it is number 15 on that wheel. For the Tricorder Display, *D15* is found on the wheel that tells information about substances and energy sources. A setting of *D15* indicates that the tricorder is picking up a heat energy source.

Multiple Data Elements

Sometimes a reading will give more than one data element, particularly if the reading were made several times. In this case, the gamemaster would give the player several letter/number elements in a row. The player would set each wheel, using the combination of settings to *interpret* what information is received. For novice users, it is a good idea to keep the number of elements given at one time small to help them with translations.

For example, the player states that his character (a novice with the tricorder) is taking a tricorder reading for energy sources. In response, the gamemaster gives the following data elements: *A11/B10*. The player sets wheels A and B on the Tricorder Display. He can see that the tricorder is picking up an unknown energy source. He resets the wheels to 32, and uses the tricorder again to find the distance of the source.

This time the gamemaster gives the elements *B3/C6/D8*, to show that the fire is 368 meters away from the player character. A third tricorder reading gives the player the settings *A17/B11*. From this, he can see that his character is scanning a large heat source. All three readings give the player the information that 368 meters away is a large heat source of unknown or unrecognized origin.

The same Data Wheel may be used for more than one element, giving multiple modifiers to a piece of basic information. In this way, general readings can be made specific, either by adding elements to the original reading for successful later readings, or by giving a detailed reading initially.

For example, a novice's tricorder life-forms reading gives settings of *A9/A17/D10*. It uses Data Wheel A twice to give a scan of multiple large plants (a grove of trees). For an character with more skill, this could be given as *A9/A17/A20/D12/D12*, for a scan of multiple large, stationary plants that are alive, a much more detailed reading that uses Data Wheel A three times and Data Wheel D twice.

Another example, for a materials reading by an expert, uses all four Data Wheels several times. The settings are *A15/A20/C12/C9/C12/D5/A9/A15/C15/D3/A9/A14/D15/D30/D2/A9/A15/D12/D28/A26/A9/A13/D28/D13*, showing a scan of a small, stationary volume of liquid; composed of 90% liquid; 5% multiple small minerals; 3% multiple small, decaying fish; 2% multiple small, growing plants; increasing multiple tiny, new lower life forms. (I thought I'd fed my fish enough!)

DATA STRIP ELEMENTS

The Tricorder Data Strips are overprinted in red to conceal the information they contain, and they have two sides with six panels each. *Side A* for Strips A, B, C, and D has elements 1 through 18 on it, and *Side B* has elements 19 through 36. *Side A* for Strip E has elements 1 through 6 on it, and *Side B* has elements 7 through 12. Strip A contains information on energy sources, Strips B and C deal with substances, and Strips D and E deal with life forms. All the data elements on these strips are found in **Appendix C**.

The Sensors Data Strips are different. They are not overprinted in red, they are only one-sided, and they have four drawings on them. Those provided with the Display have pictures of starships. **Appendix D** lists all of the elements for the Sensors Data Strips.

The Data Strips represent the memory of the tricorder or the screen readout of the sensors. When a reading has identified something in the tricorder's memory, the gamemaster gives the players a data element. The player will insert the appropriate Data Strip and locate the element. Particularly with the common information given in the five strips supplied with the Display, the gamemaster may give all the strips to the players and have them make the necessary settings, just as they would do with the data wheel.

For example, let us say that the players identify an Imperial Klingon with the tricorder. The gamemaster tells the players to set element *E7* on the Tricorder Display. The player using the display selects Strip E, and sets Side B, element 7. This will display a picture of an Imperial Klingon.

Data strips from adventures and elsewhere, however, may contain information that should be concealed from the players until they have discovered it. In these cases, the gamemaster will insert the appropriate Data Strip and set the Display to show the data element corresponding to the thing identified. Then, the player can read the information from the window.

For example, the players encounter a Gorn, and the gamemaster inserts the adventure Data Strip in the Tricorder Display, so that the appropriate pictures show through the window. He sets the element given in the adventure, which shows a Gorn in this case, and hands the Display back to the players.

Using Tricorders

TRICORDER TYPES

There are two types of tricorders, the sciences tricorder and the medical tricorder. As of Reference Stardate 2/2200, there are three models for the sciences tricorder: the standard model, the improved standard model, and the directional model. As of the same date, there are two models of the medical tricorder: the standard model and the improved standard model.

The sensitivity and range for each model is different, with the most sensitive being the directional sciences tricorder. Although the improved standard tricorders have a greater overall range, the most improvement comes in the ranges for the more detailed readings.

TRICORDER DATA DESCRIPTIONS

For convenience, the following information is from the **STRPG2** rules booklet.

SCIENCES TRICORDER

The sciences tricorder makes three basic types of scans, with several sensitivity levels available for each; in most cases, the overall sensitivity of the device depends on the user's skill in *Computer Operation*. It can scan for energy sources, for substances, and for life forms.

Energy Sources

A general scan for energy sources will reveal if any major source of energy exists within the tricorder range. A second scan will pinpoint its direction and approximate distance. As long as the source continues output, the tricorder will lead the user to it, even if it moves. A specialized scan may be made from a far closer distance to determine the type of energy source. An even narrower scan near the energy source will pinpoint the area or item that creates or draws the energy.

Substances

A general scan for concentrations of a desired substance will reveal any present within the tricorder range. A second scan will reveal the direction and the approximate distance. A specialized scan may be made within from a far closer distance of an unknown substance to determine what it is primarily made of. An even narrower scan near a substance will give its complete chemical composition. Only substances for which scans exist in the computer banks will be identified, and substances that have never been scanned before will be noted as unknowns.

Life Forms

A general scan for the presence of other life forms will reveal any within the area; the range for this scan is less than that of the other scans. A second scan will tell direction and approximate distance. A specialized scan made within a far closer distance will reveal the number of individual life forms and their general type. More precise data requires the use of a medical tricorder.

MEDICAL TRICORDER

The medical tricorder will give more detailed information on substances and life forms than the sciences tricorder, but it does not possess the sciences tricorder's range or versatility.

Substances

The presence of a substance and its general direction and distances can be determined within the tricorder's range. A narrow scan near the substance not only will determine the chemical composition of a sample, but also will give data on that substance's effects on various life forms.

Life Forms

Within a far shorter range, a life forms scan can identify any known life form and give considerable biological data about even an unknown form. A narrow scan near the life form reveals complete diagnostic medical data. In addition, it can detect foreign materials in the bloodstream, of aid in diagnosing cases of poisoning or drugging.

READING SENSITIVITY

Though the tricorder may be used by anyone with basic proficiency in *Computer Operation*, it is used more efficiently and with greater precision and sensitivity by those with greater skill. The information available from any reading depends on two things, the range from the subject of the scan and the detail required.

The **STRPG2** rules tell what information may be gained at what ranges by a person with basic proficiency (Skill Rating of 10) in *Computer Operation*. Those rules do not take into account the increased detail and range that a skillful, experienced operator will get from the same readings. The rules in this section will present extensions of the **STRPG2** rules to take increased proficiency into account. The sections below define the various proficiency groupings used and discuss the information available to characters in these groupings, showing the variation for range and for detail.

In all cases, the limits given below are for information obtained in *leisurely, non-critical, normal uses*, that is, those that require *no* Skill Roll as defined in the **STRPG2** rules. For other situations, a Skill Roll may be required, as described in the section on **Tricorder Skill Rolls**.

PROFICIENCY GROUPINGS

The following groupings are used in the tables for range and detail.

Proficiency Groupings		
Group Number	Skill Rating	Description Of Group
0	1 - 9	Semi-skilled
I	10 - 24	Basic proficiency
II	25 - 39	Average proficiency
III	40 - 59	Professional proficiency
IV	60 - 79	Mastery level proficiency
V	80 - 94	Expert level proficiency
VI	95+	Exceptional level proficiency

INFORMATION CLASSES

The detail available from any reading increases as the proficiency of the operator increases. The Information Classes for the tricorder are given in the table below. Each Class adds a level of detail to the information known by Classes with lower numbers, so that Class IV information is very specific.

Detail Available For Information Classes	
Information Class	Detail Available
I	<p>General information.</p> <p>Presence of an energy source, substance, or life form.</p> <p>Distance and range to detected object.</p> <p>General size of detected object.</p> <p>General type of energy source or life form.</p> <p>General composition of substance.</p> <p>Presence or absence of selected energy sources, substances, or life forms, the data for which is pre-programmed into the tricorder.</p>
II	<p>Rough, low-level detail.</p> <p>Movement direction of detected object.</p> <p>Strength of energy sources or concentration of substances.</p> <p>Temperature relative to surroundings.</p> <p>Relative density or weight.</p> <p>Whether detected life forms are alive or dead.</p> <p>Identification of known sentient life form, if tricorder has pre-programmed data.</p>
III	<p>General detail.</p> <p>Alteration in behavior, in acceleration, number, size, and so on.</p> <p>Emissions from detected object.</p> <p>Identification of several specific types of organic or mineral substances.</p> <p>Whether detected life forms are sentient or not.</p>
IV	<p>Specific, high-level detail.</p> <p>Type of pattern in detected object's behavior.</p> <p>Stability of detected object.</p> <p>Effect of specific substance on life form, if tricorder has pre-programmed data.</p> <p>Relative age of detected object or stage of life for life forms.</p> <p>Pinpointing the exact location of the source of energy when near an unknown mechanism.</p>

RANGE

Maximum ranges are given in the **STRPG2** rules for the standard tricorder; the ranges given in the **STAR TREK III Sourcebook Update** are for all three tricorder types. In both cases, the ranges are given for persons of minimum skill. The maximum range for any type of reading may be extended for persons of greater skill: the greater the skill, the farther away that a specific piece of information can be gained from a scan. Furthermore, the greater the skill, the more information can be gained from a scan at the same distance. Characters with very high Skill Ratings also can use a sciences tricorder for information normally available only using a medical tricorder.

The tables below give the ranges, in meters, for each tricorder type and each type of scan in *leisurely, non-critical applications*. In other situations, the reading may not be possible without exercising the character's *Computer Operation* skill to the limit (and making a successful Skill Roll).

STANDARD TRICORDER RANGES

Scan	Information Class	Maximum Range For Proficiency Groups					
		I	II	III	IV	V	VI
Energy Sources:							
I	Standard Sciences	400	600	1000	1300	1500	1600
	Improved Sciences	500	750	1200	1400	1650	1750
	Directional Sciences	1000	1200	1500	1750	1900	2000
II	Standard Sciences	100	400	600	800	900	1000
	Improved Sciences	250	550	800	1100	1300	1500
	Directional Sciences	300	700	1000	1300	1500	1700
III	Standard Sciences	—	80	100	175	300	350
	Improved Sciences	40	100	175	350	500	550
	Directional Sciences	75	125	200	400	550	650
IV	Standard Sciences	—	—	1.5	3	7	10
	Improved Sciences	—	3	15	20	23	25
	Directional Sciences	3	10	15	25	28	30
Life Forms:							
I	Standard Sciences	200	300	500	650	750	800
	Improved Sciences	350	500	700	850	1000	1100
	Directional Sciences	40	100	150	175	225	250
	Standard Medical	250	400	500	650	750	800
	Improved Medical	450	600	800	950	1050	1100
II	Standard Sciences	30	60	100	150	200	250
	Improved Sciences	40	100	150	190	250	300
	Directional Sciences	70	150	250	325	400	450
	Standard Medical	30	60	100	175	240	300
	Improved Medical	60	120	175	220	250	300
III	Standard Sciences	—	—	1.5	3	4	5
	Improved Sciences	—	1.5	3	5	8	10
	Directional Sciences	—	1.5	4	7	10	12
	Standard Medical	1.5	5	15	25	35	40
	Improved Medical	8	15	25	40	50	60
IV	Standard Sciences	—	—	—	1.5	3	5
	Improved Sciences	—	—	1.5	3	6	10
	Directional Sciences	—	—	1.5	4	7	10
	Standard Medical	1.5	3	5	8	10	
	Improved Medical	3	5	10	15	18	20
Substances:							
I	Standard Sciences	400	600	1000	1300	1500	1600
	Improved Sciences	500	750	1200	1400	1650	1750
	Directional Sciences	1000	1200	1500	1750	1900	2000
	Standard Medical	50	75	100	250	325	400
	Improved Medical	75	100	150	300	400	500
II	Standard Sciences	100	400	600	800	900	1000
	Improved Sciences	250	550	800	1100	1300	1500
	Directional Sciences	300	700	1000	1300	1500	1700
	Standard Medical	30	*60	100	250	325	400
	Improved Medical	90	120	150	300	400	500
III	Standard Sciences	—	80	100	175	300	350
	Improved Sciences	40	100	175	350	500	550
	Directional Sciences	75	125	200	400	550	650
	Standard Medical	—	80	100	175	250	300
	Improved Medical	40	100	150	175	225	250
IV	Standard Sciences	—	—	1.5	3	7	10
	Improved Sciences	—	3	15	20	23	25
	Directional Sciences	3	8	15	20	23	25
	Standard Medical	—	—	1.5	3	7	10
	Improved Medical	3	8	15	20	23	25

THE TRICORDER DISPLAY

The following sections describe the data elements on each Data Wheel. The table in **Appendix A** gives the exact data elements for all four wheels.

SCAN SENSITIVITY

On all wheels, the data elements are organized from those available in each Information Class. Those in Class I occupy the lower numbered spaces, and those for Class IV occupy the higher numbered spaces. Data Element 31 gives general reading information, different for each wheel, and Data Element 32 is blank. The following table shows the ranges.

Data Elements For Each Proficiency Group	
Information Class	Data Element Numbers
I	1 - 19, 31, 32
II	20 - 23
III	24 - 27
IV	28 - 30

DATA WHEEL DESCRIPTIONS

Data Wheel A

This wheel gives qualifiers for the readings on other wheels. Direction, relative number, size, movement, acceleration, increase/decrease, and pattern type are found here.

Data Wheel B

In addition to numbers in hundreds, this wheel gives information about energy sources. It gives descriptors of the general type of source (such as electrical or hydraulic), its general strength, its emissions, and its stability.

Data Wheel C

In addition to numbers in the tens, this wheel gives information about substances. It gives descriptors for its state (such as solid), its nature (such as metallic or artificial), its relative temperature, its weight or density, and its effect on life forms.

Data Wheel D

In addition to the numbers from 0 to 9, this wheel gives information about life forms, including all the life-form types given in the **STRPG2** rules. It gives descriptors about their state (such as alive, expanding, or aging), and their ability to think.

Notes

The sizes given correspond to the standard sizes specified in the **STRPG2** rules: tiny (mouse), very small (housecat), small (dog), medium (lion), large (horse), very large (elephant), huge (brontosaurus).

Cardinal directions (north, south, east, and west) are planetary directions oriented using the axis of planetary rotation to determine north and south.

In keeping with the **STRPG2** rules, distance readings should be given in meters, bearing in mind the ranges for each type of reading. Thus, the elements A1/B8/C5/D3 would be given as the settings for a distance of 1853 meters (1000/800/50/3).

Compositions should be given in percent. Thus, the elements C4/D2/C12 would be given as the settings for a composition of 42% liquid (40/2/liquid).

DATA STRIP DESCRIPTIONS

The Tricorder Data Strips are overprinted in red, so that the information on them is concealed. Each strip, except Strip E, has 36 data elements on it, 18 per side. The elements on Side A are upside down with respect to the elements on Side B, and so it is necessary to turn the strip around (not over) to get elements 19 through 36. There are only 12 elements on Strip E, six per side.

Data Strip A: Energy Sources

Side A of this strip lists various examples of the energy source types given by Data Wheel B (like *earthquake*). Side B lists various types of emissions, emanations, transmissions, or discharges that can be identified from given energy sources (like *radio transmission*) or energy converters (like *phaser discharge*).

Data Strip B: Substances

This strip lists various naturally occurring metals and mineral substances. Side A includes normal metals (like *iron*), special metals (like *gold* or *ryetalyln*), and industrial crystals (like *dilithium*). Side B lists gemstones (like *diamond*), radioactives (like *plutonium*), and general mineral substances (like *sulphur* or *limestone*).

Data Strip C: Substances

Side A of this strip lists processed or manufactured mineral substances (like *steel*); several blank spaces are provided for gamemaster use. Side B lists natural, processed, or synthetic organic substances (like *crude oil*, *petroleum fuel*, or *soft plastic*).

Data Strip D: Life Forms

Side A of this strip lists examples of the various life forms given on Data Wheel D (like *dog/wolf* or *protozoa/amoeba*). Side B lists various pieces of life-support information dealing with the atmosphere and the water of a planet; it also gives biological information about the nature of substances with respect to various life forms (like *plant poison*).

Data Strip E: Life Forms

Side A of this strip shows drawings of the major UFP races (like *Edoan*). Side B of this strip shows drawings of the other starfaring races (like *Gorn*).

COMBINING WHEELS AND STRIPS

The elements of the wheels may be combined with those on the strips to give really precise readings. When doing this, always give the Data Strip element first, making it clear that this is for a data strip.

For example, the set of elements B8//C3/D5 for a tricorder composition scan gives the reading 35% meteoritic nickel-iron. The elements A30//A21 says approaching plasma (duck or D21!).

TRICORDER ROLLS

The **STRPG2** rules state that in **ROUTINE** use, a character may take tricorder scans **WITHOUT** a Skill Roll. The following change in those rules is provided for those gamemasters who wish to use it.

PROFICIENCY FACTOR

Whenever the tricorder is used, whether the use is routine or not, the using character must roll percentile dice, just as though he were making a Skill Roll. The percentile dice roll is combined with the Skill Rating in *Computer Operation* to give the Proficiency Factor, as shown in this formula:

$$\text{Proficiency Factor} = 100 + \text{Skill Rating} - \text{D100}$$

The Proficiency Factor will be used to determine not just success or failure with the tricorder, but how well the character used the device. If the character rolls low enough, his Proficiency Factor will be very high; in this case, he will have used his skill to the maximum, wringing out of the readings more information than he could normally, or perhaps at a far better range. If he rolls high, however, the opposite may be true, and he will have used his skill less well than normal.

If the Proficiency Factor is less than 100, then no additional detail or range is possible, and some detail or range may be lost: the lower the Proficiency Factor, the less the detail and range. If the Proficiency Factor is 100 or more, then additional detail or range will be possible: the higher the Proficiency Factor, the more the detail and range.

EFFECTIVE PROFICIENCY

To find the effective proficiency for any tricorder use, first find the Proficiency Factor. Then, in the table below, find the character's current Proficiency Group. Cross-reference this with the column containing the Proficiency Factor. This gives the Effective Proficiency Group for that tricorder use. The highest is Group V, no matter how high the Proficiency Factor or low the roll.

For example, if a character has a Skill Rating of 57 in *Computer Operation*, he will be in Proficiency Group III. Let us say he makes a percentile roll of 46, which makes his Proficiency Factor 113. Cross-referencing for this use shows that he is in Effective Proficiency Group IV. Because this group is higher than his usual group, he will be able to find more detail at any particular range, or increase the range for a particular type of scan.

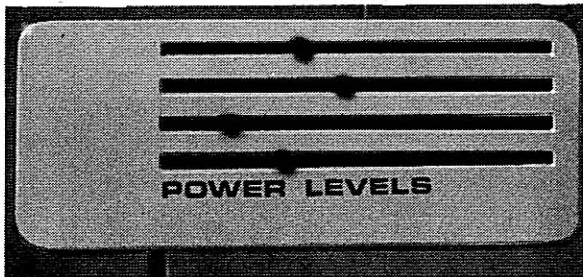
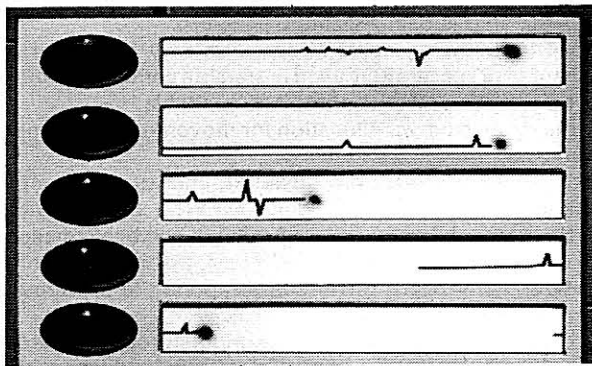
If his percentile roll were 81, his Proficiency Factor would be 76. Cross-referencing shows that he is just barely in Effective Proficiency Group I. If he had rolled an 82, his Proficiency Factor would have been 75, and he would not have been able to get any reading at all.

For leisurely, non-critical, routine uses, the character's skill must be in Proficiency Group I or higher; for these uses, modify the table results by making the Effective Proficiency Group one higher. Characters in Proficiency Group 0 *always* use the table below with no modification.

Other modifiers may be added by the gamemaster to adjust for the situation or the desired action by the player. In this way, it is possible for player characters to use the sciences tricorder to get rough medical data, if their Proficiency Factors are high enough.

Effective Tricorder Proficiency

Proficiency Group	Proficiency Factor						
	75 or less	76 - 90	91 - 99	100 - 108	109 - 122	123 - 137	138 +
0	Erase memory	No Use	No Use	I	I	—	—
I	No Use	No Use	No Use	I	II	III	IV
II	No Use	No Use	I	II	III	IV	V
III	No Use	I	II	III	IV	V	V
IV	I	II	III	IV	V	V	V
V	—	III	IV	V	V	V	V



Using Starship Sensors

SENSORS SYSTEM TYPES

There have been four different sensors developed since the first laser-equipped ships through the *USS Excelsior*, which had the best sensors of all Star Fleet vessels at the time it was commissioned. Developed in response to increases in technology in other fields, three of these types represent substantial advances in detection technology. Without such advances, the ships would not have been able to take full advantage of the advances in warp drive technology with safety, nor would they have been able to use the new weapons systems to their fullest potential. Only the sensors system developed for the *Excelsior* is an extension of technology already developed, and not a major breakthrough.

FRA SENSORS SYSTEM

The FRA sensors system, introduced Reference Stardate 1/0200 and very advanced for its time, was useful for the early vessels on which it was mounted. As with all subsequent models, it gave navigation information to the ship's computer at distances great enough to insure that the ship travelling at warp speeds did not even come dangerously close to celestial objects that could not be handled by the deflector shields. As with all later models, the FRA provided identification information at ranges greater than the most powerful weapons could fire, and it provided detailed battle information at medium-to-long ranges for the ship's weaponry. It was clear from field reports, however, that the more skillful users were limited by the short range and lack of sensitivity of the detection devices.

FRB SENSORS SYSTEM

The FRB sensors system, such as that found on the old *Constitution* Class vessels, represented as great an advance in information detection as did the phaser in weaponry. Introduced Reference Stardate 1/9900 in response to the need for sensors that could detect farther than the new phaser weapons, the FRB was capable of far greater range than the FRA (at least five times as great for professional-level users). Furthermore, its sensitivity was substantially improved; using the FRB, experts could gain data that was the equivalent of that provided by the tricorder, at ranges that were greater than the range of the most general identification information from the FRA. With its introduction, the sensors again outperformed the weaponry, and they kept pace with the greater warp speeds of the vessels on which they were mounted. By the time this sensors system was available on the majority of vessels, training had advanced to the point where experts again were limited by the detection system.

FRC SENSORS SYSTEM

The FRC sensors system, introduced Reference Stardate 2/1600 and found on the new *Enterprise* Class vessels, represents an advance from the FRB system. Although the maximum range was improved about 50%, design breakthroughs made it possible for the professional-level user to gain information at ranges more than 50% greater. The FRC allowed new Science Officers to gain general information at ranges previously only available to experts such as Commander Spock of Vulcan. Of course, with the improvement in weaponry represented by the FH-11 phaser, the system was required to be more powerful. Nonetheless, it met this challenge, giving detailed battle information at ranges greater than the FH-11's maximum for professional-level users, and ranges close to the maximum weapon range for users of average skill.

FRD EXPERIMENTAL SENSORS SYSTEM

The new and experimental FRD sensors system, designed for the enormously powerful and fast *USS Excelsior* commissioned Reference Stardate 2/2201, is only an extension of the FRC sensors technology instead of a real advance such as seen with the FRB and the FRC. The maximum navigation range allows the *Excelsior* to travel at Warp 14 without danger, and the maximum identification range has been extended another 50% over the FRC model. Once again, the modifications to the design allow Science Officers with only minimum professional-level skill to gain battle information at ranges available only to experts with the FRC.

SENSORS DATA DESCRIPTIONS

For convenience, the following information is from the **STRPG2** and the **STAR TREK III Starship Combat Game** rules booklets.

Ship's sensors are a battery of detection, sampling, and analysis devices used by starships to examine their environment. Navigation sensors fix the exact position of a ship, and they tie into the navigation systems and deflector shields to protect the ship from space debris. Energy sensors can determine the amount and type of energy being output by an object or location; this function can be fine-tuned to give very accurate readings on the defensive screening of a ship or the radiation level of a dangerous area. Material analysis sensors give the dimensions, physical composition, and material properties of an object; at close range, they can give an object's exact chemical composition. Life sensors measure the abundance, type, and condition of living things; when fine-tuned at close range, they can tell one species and even one race from another.

Sensor scans are blocked by large amounts of rock or water, extremely thick atmospheres, electromagnetic interference, and certain dense or reflective materials.

The Sensors Display may be used for readings that identify ships and other objects in space and that determine size and location. It also can be used to show readings for all of the battle questions allowable for sensors in the **STAR TREK III Starship Combat Game**. These are:

- 1) the type, size, nationality, and class of ship, or the size of any other object;
- 2) the type of life forms present (only if the target ship's shields are down);
- 3) the composition of the object;
- 4) the status of the object's composition;
- 5) if the ship is being scanned in return.

The following battle information may be gained when sensors are successfully used in starship combat situations:

- 1) how much power the ship has available;
- 2) the relative power allocation for movement, weapons, and shields;
- 3) how many shields are powered, and total power put in them;
- 4) the power given to a specific shield (probably a separate reading);
- 5) how many beam or missile weapons are powered, and total power put in them;
- 6) the power given to a specific weapon (probably a separate reading);

- 7) damage status of the ship's engines, weapons, shields, and superstructure;
- 8) status of the ship's life forms (only if at least one shield is down);
- 9) if any transporters are powered and how many life forms are being transported;
- 10) the location of cloaked Romulan vessels (probably a Skill Roll will be required).

READING SENSITIVITY

Though a starship sensors system may be used by anyone with basic proficiency in *Starship Sensors*, it is used more efficiently and with greater precision and sensitivity by those with greater skill. The information available from any reading depends on two things, the range from the subject of the scan and the detail required.

The rules books tell what information may be gained at what ranges by a person with basic proficiency (Skill Rating of 10) in *Starship Sensors*. Those rules do not take into account the increased detail and range that a skillful, experienced operator will get from the same readings. The rules in this section will present rules extensions to take increased proficiency into account. The sections below define the various proficiency groupings used and discuss the information available to characters in these groupings, showing the variation for range and for detail.

In all cases, the limits given below are for information obtained in *leisurely, non-critical, normal uses*, that is those that require *no* Skill Roll as defined in the **STRPG2** rules. For other situations, a Skill Roll may be required, as described in the section on **Using Sensors**.

PROFICIENCY GROUPINGS

The Proficiency Groups for using sensors are as follows:

Skill Ratings For Proficiency Groupings

Proficiency Group	Skill Rating	Description
0	1 - 9	Semi-skilled
I	10 - 24	Basic Proficiency
II	25 - 39	Average Proficiency
III	40 - 59	Professional-level Proficiency
IV	60 - 79	Mastery-level Proficiency
V	With INT less than 80, 80 + With INT 80 +, 80 - 89	Expert-level Proficiency
VI	With INT less than 90, 90 + With INT 90 +, 90 - 94	Exceptional Proficiency
VII	95 - 00	

INFORMATION CLASSES

As with tricorders, the detail available from any reading increases as the proficiency of the operator increases. The Information Classes for the tricorder are given in the table below. Each Class adds a level of detail to the information known by Classes with lower numbers, so that Class IV information is very specific.

Information Classes		Information Classes	
Information Class	Detail Available	Information Class	Detail Available
0	Navigational information Detection of large, celestial object. Type of star. Bearing and distance to detected object. Approximate mass and speed of detected object	II	Rough, low-level detail. Movement of object. Identification of starship government, if known. Identification of starship type, if known. General battle readiness of starship. Identification of small, artificial objects, if known.
I	General information only. Detection of small celestial object or large artificial object. Bearing and distance to detected object. General classification of natural objects, including planet type. General classification of large, artificial objects, including starship class. Approximate mass and speed of object.	III	General detail. Specific battle information about starship. Changes in object's movement.
		IV	Tricorder Class I
		V	Tricorder Class II
		VI	Tricorder Class III
		VII	Tricorder class IV

The maximum sensors range for persons of minimum skill given in the **STRPG2** rules 160,000 km; this is the range a professional-level Science Officer can pick up battle information using the FRB sensors available to *Constitution* Class ships and their contemporaries.

In general, the greater the skill of the user in *Starship Sensors*, the farther away that information can be detected from a scan. In addition, for a given range, the greater the skill, the more detailed the information that a scan will reveal. The tables below, one for each sensors type, show this. The tables give the ranges, in thousands of meters, that information from the seven Information Classes can be detected by the seven Proficiency Classes.

SENSORS SYSTEM RANGES

Information Class	Sensors Type	Proficiency Group						
		I	II	III	IV	V	VI	VII
I	FRA	20	30	50	90	100	100	100
	FRB	130	210	300	380	460	550	630
	FRC	300	450	650	800	900	950	1000
	FRD	500	700	1000	1200	1350	1450	1500
II	FRA	—	20	40	70	90	100	100
	FRB	100	140	220	300	370	420	480
	FRC	200	320	460	600	700	750	800
	FRD	350	550	750	1000	1150	1250	1300
III	FRA	—	—	30	50	80	90	100
	FRB	70	100	160	220	300	350	400
	FRC	150	210	350	500	580	650	700
	FRD	250	350	600	900	1050	1150	1200
IV	FRA	—	—	—	—	20	30	50
	FRB	—	—	70	150	200	250	300
	FRC	—	70	170	300	400	450	500
	FRD	70	100	300	500	620	700	750
V	FRA	—	—	—	—	—	—	—
	FRB	—	—	—	60	120	180	220
	FRC	—	—	—	140	200	300	350
	FRD	—	—	70	250	400	510	600
VI	FRA	—	—	—	—	—	—	—
	FRB	—	—	—	—	50	120	150
	FRC	—	—	—	—	120	180	220
	FRD	—	—	—	50	250	350	430
VII	FRA	—	—	—	—	—	—	—
	FRB	—	—	—	—	—	50	100
	FRC	—	—	—	—	—	100	150
	FRD	—	—	—	—	50	150	300

THE STARSHIP SENSORS DISPLAY

The following sections describe the data elements on each Data Wheel. The table in **Appendix B** gives the exact data elements for all four wheels.

SCAN SENSITIVITY

As with the tricorder Data Wheels, the data elements are organized from those available to each Information Class, with those used for Class I use occupying the lower numbered spaces, and those for Classes IV and V occupying the higher numbered spaces. Data Element 31 gives general reading information, different for each wheel, and Data Element 32 is blank. The following table shows the ranges.

Data Elements For Information Classes	
Information Class	Data Element Numbers
I	1 - 18, 31, 32
II	19 - 24
III	25 - 30
IV	Tricorder Elements 1 - 19
V	Tricorder Elements 20 - 23
VI	Tricorder Elements 24 - 27
VII	Tricorder Elements 28 - 30

DATA WHEEL DESCRIPTIONS

Data Wheel A

This wheel provides the basic descriptors for ships and other objects. Each major ship type is listed, as well as major celestial objects.

Data Wheel B

This wheel gives battle information, such as would be used with the **Starship Combat Game**. It gives the specific game descriptors (such as power to shields), the major governments, and basic size descriptors. Sizes should be given in meters and weight (mass; displacement) in metric tons. It also has numbers by hundreds to 300.

Data Wheel C

In addition to numbers from 0 to 10 and by tens to 100, this wheel provides star and planetary classifications from Type A **Data Wheel D**

This wheel also gives numbers from 0 to 10, as well as multipliers from 1 hundred to 1 billion. It gives star and planetary classifications from Type L through Type O, and certain actions.

DATA STRIP DESCRIPTIONS

The Sensors Data Strips contain 4 drawings each. Those provided with the Display are of common starships. Strip A has drawings of Star Fleet vessels, Strip B of Klingon ships, Strip C of Romulan ships, Strip D of Gorn and Orion ships, and Strip E of commercial vessels.

SENSORS ROLLS

The **STRPG2** rules state that in *ROUTINE* use, a character may take sensor scans *WITHOUT* a Skill Roll. The following change in those rules is provided for those gamemasters who wish to use it. The system presented below is similar to that presented for using tricorders.

PROFICIENCY FACTOR

Whenever the sensors are used, whether the use is routine or not, the using character must roll percentile dice, just as though he were making a Skill Roll. The percentile dice roll is combined with the Skill Rating in *Starship Sensors* to give the Proficiency Factor, just as with tricorder use. This is shown in the following formula:

$$\text{Proficiency Factor} = 100 + \text{Skill Rating} - D100$$

The Proficiency Factor will be used to determine not just success or failure with the sensors, but how well the character used them. If the character rolls low enough, his Proficiency Factor will be very high; in this case he will have used his skill to the maximum, wringing out of the readings more information than he could normally, at a far better range, and even gaining detail as specific as tricorder readings. If he rolls high, however, the opposite may be true, and he will have used his skill less well than normal.

EFFECTIVE PROFICIENCY

To find the effective proficiency for any sensors use, first find the Proficiency Factor. Then, in the table below, find the character's current Proficiency Group. Cross-reference this with the column containing the Proficiency Factor. This gives the Effective Proficiency Group for that tricorder use. The highest is Group VII, no matter how high the Proficiency Factor or low the roll.

For example, if a character has a Skill Rating of 57 in *Starship Sensors*, he will be in Proficiency Group III. Let us say he makes a percentile roll of 46, which makes his Proficiency Factor 113. Cross-referencing for this use shows that he is in Effective Proficiency Group IV. Because this group is higher than his usual group, he will be able to find more detail at any particular range, or increase the range for a particular type of scan.

If his percentile roll were 81, his Proficiency Factor would be 76. Cross-referencing shows that he is just barely in Effective Proficiency Group I. If he had rolled an 82, his Proficiency Factor would have been 75, and he would not have been able to get any reading at all.

For leisurely, non-critical, routine uses, the character's skill must be in Proficiency Group I or higher; for these uses, modify the table results by making the Effective Proficiency Group one higher. Characters in Proficiency Group 0 *always* use the table below with no modification.

Other modifiers may be added by the gamemaster to adjust for the situation or the desired action by the player. In this way, it is possible for player characters to use the sciences tricorder to get rough medical data, if their Proficiency Factors are high enough.

Effective Proficiency Groups

Proficiency Group	Proficiency Factor						
	75 or less	76 - 90	91 - 99	100 - 108	109 - 122	123 - 137	138 +
0	No Use	No Use	No Use	I	I	—	—
I	No Use	No Use	No Use	I	II	III	—
II	No Use	No Use	I	II	III	III	III
III	No Use	I	II	III	IV	IV	IV
IV	I	II	III	IV	V	V	V
V	—	III	IV	V	VI	VI	VI
VI	—	—	IV	V	VI	VII	VIII

Gamemaster's Notes

MAKING INTERPRETATIONS

It can be seen that using the Displays to get the readings is relatively easy. It also is probably apparent that interpreting the data might not be quite so easy. Raw data in the form of the settings must be interpreted to be useful to the gamer. The usefulness of any setting depends on how much effort must be expended to interpret it and on how much knowledge the interpreter has with which to compare the setting.

Take an example from daily life. While driving the standard groundcar, the dashboard readout gauges indicate low oil pressure, high oil temperature, and high water temperature. The driver can look at these readouts (which are like the Display settings) and say to himself, "Gee, the engine is getting hot." If he has more experience and knowledge, however, he can look at the readouts and say, "I've blown a gasket and lost all my oil. Without oil to lubricate the engine, friction is building up heat, and the engine will blow up if I don't pull over." Comparing the readout gauges with the oil slick the groundcar has left on the road for the past six or seven km will confirm this interpretation.

HINTS ON USE

Using the Displays may be a little frustrating at first, for both player and gamemaster. It will take some time to get used to setting the various letter/number elements and interpreting what they mean. Just as practice makes more-mundane things easier (like driving a groundcar), so will practice with the Displays make using them easier.

Some general tips to keep in mind:

A. Make sure that players reset *all* wheels to data element 32 (blank) before a new reading takes place, OR, make sure to include data element 32 for each wheel not used in the setting.

B. At first, for novice users (and gamemasters), it is best to use short data settings, perhaps only two or three elements long, restricting the settings to those that answer specific questions asked by the player. In this way, the players will be able to learn, through repetition, just how the device will be used, what sorts of information can be gained from what sorts of scans, how the range alters the ease with which data is available, and the particular point of view the gamemaster brings to sensors and tricorder use.

C. While the players gain familiarity with the device and the game system, be absolutely *sure* that the settings given one time for a particular answer are *exactly* the same as for another time. The more the players use the device, the more of the particular settings they will remember. (It won't take long to learn that tricorder D21 means "It's dead, Jim!") This will make the device more useful.

D. Work with the player to adopt scan sequences, and use these sequences every time you play. For example, if the players encounter a starship, choose a sequence of data readings, like that below. The next time such an encounter occurs, use the same sequence. With enough repetitions, the players will learn what information may be gained at what ranges (in general), and what information may be gained from unusually good rolls.

Sample Reading Sequence For Starship Contact/Combat

1) *Beyond maximum range given in the table: The sensors pick up an unknown object (B4/C31), Captain. Bearing 356°. (B7/B3/C5/D6. Straight ahead is 0°, straight right is 90°, straight back is 180°, and straight left is 270°. Probably it does not matter the exact heading, but it certainly adds a STAR TREK flavor!) Range, about 1,500,000 km (B6/C10/D15/C14/D14).*

2) *At maximum range for Class I information: Captain, it is an unknown artificial object, travelling at sublight speed (A2/B12).*

3) *At the same range, second roll: It is an unknown starship, Captain, travelling at sublight speed.*

4) *At maximum range for Class II information: It appears to be... a Romulan, closing fast! (A3/C20/C25, a good roll!)*

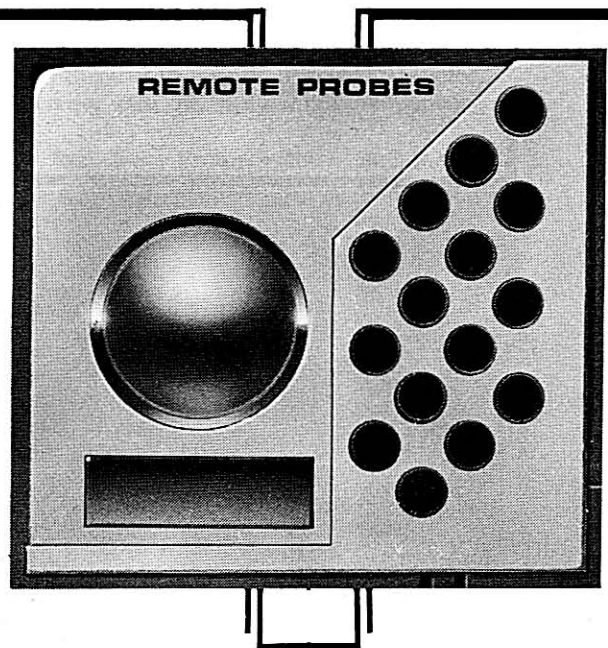
5) *Next roll, same range: Captain, the ship is armed, shielded, and scanning. (B19/B21/B24)*

6) *At maximum range for Class III information: Captain, the ship has 52 power units available. (A25/C5/D2)*

... And so on.

E. As familiarity grows, use longer strings of settings, relying on the player to puzzle out what the settings mean. In this way, the players will respond to the information from the tricorder or sensors, instead of formulating specific questions for the gamemaster to answer using tricorder or sensors settings.

F. With characters having high Proficiency Factors, give detailed information in the first reading. This has a particularly nice *STAR TREK* flavor. Spock, after all, was able to determine some rather amazing things from his sensors, and even used them much as a tricorder would be used to its fullest. With such an important information source at their disposal, players will come to value the Science and Medical Officers all the more.



Appendix

These tables are meant to be used by gamemasters to provide the data elements for Tricorder Display and Starship Sensors Display settings. The first four of the Appendices are tabular lists of the data elements provided for the Displays. The remaining three Appendices are tables that expand on information so that gamemasters can take situations from their games and turn them into settings.

Appendix A lists the data elements on all four Data Wheels for the Tricorder Display, and **Appendix B** gives the same for the Starship Sensors Display. **Appendix C** gives the data elements on the five Data Strips for the Tricorder Display, and **Appendix D** does the same for the Starship Sensors Display.

from the ship's computer. **Appendix F** gives data about planet types, which would be available only from quite close. Much of it can be provided through using the sensors like a tricorder, giving Class IV, V, VI, and VII information.

Appendix G gives the relationship between ship type (like *destroyer*) and ship class, which is a function of the ship's mass. At extreme range, the sensors system will be able to tell that an object of a certain mass is present before it can determine that the object is a starship. Knowing the ship type, the gamemaster can use the table to determine its mass, which could become a reading at extreme range. A second scan, perhaps at closer range, would provide the knowledge that it is a starship of a certain class. Only if the type were in the computer memory bank would that information be revealed immediately by a scan.

APPENDIX A: TRICORDER SETTINGS

Element Number	Data Wheel A	Data Wheel B	Data Wheel C	Data Wheel D
1	1000	100	10	1
2	North	200	20	2
3	South	300	30	3
4	East	400	40	4
5	West	500	50	5
6	Above	600	60	6
7	Below	700	70	7
8	Single	800	80	8
9	Multiple	900	90	9
10	Known	Energy Source	Substance	0
11	Unknown	Heat/Light	Solid	Life Form
12	Trace	Electrical	Liquid	Plant
13	Tiny	Chemical/Biochemical	Gas	Lower Form
14	Very Small	Mechanical	Organic	Insect/Arthropod
15	Small	Hydraulic	Mineral	Fish
16	Medium	Atmospheric	Metallic	Amphibian
17	Large	Seismic/Geothermal	Natural	Reptile
18	Very Large	Atomic/Nuclear	Artificial	Bird/Avian
19	Huge	Matter/Anti-matter	Synthetic	Mammal
20	Stationary/Maintaining Distance	Weak/Dilute/Low	Hot/Heat	Alive
21	Approaching	Moderate	Cold	It's dead, Jim!
22	Retreating	Powerful/Concentrated/High	Density	UFP Race
23	Moving Laterally	Variable	Mass/Weight	Other Race
24	Accelerating	Transmitting/Transmission	Massive	Expanding
25	Decelerating	Scanning/Scan	Crystalline	Contracting
26	Increasing	Radiating/Radiation	Brittle	Sentient
27	Decreasing	Discharging/Discharge	Malleable	Non-sentient
28	Random	Stable/Inert	Beneficial	New/Growing
29	Definite Pattern	Unstable	Harmful	Old/Aging
30	Cycle	Critical	Deadly	Decomposing
31	Null Reading	Out Of Range	Detected	Not Detected
32				

APPENDIX B: SENSORS SETTINGS

Element Number	Data Wheel A	Data Wheel B	Data Wheel C	Data Wheel D
1	Unknown Natural Object	100	10/A	1/N
2	Unknown Artificial Object	200	20/B	2/O
3	Starship	300	30/C	3/P
4	Starbase	Unknown	40/D	4/Q
5	Outpost/Station	Number	50/E	5/R
6	Artificial Satellite	Range (km)	60/F	6/S
7	Metal Debris	Bearing (deg)	70/G	7/T
8	Star	Mass (mt)	80/H	8/U
9	Planet	Class	90/I	9/V
10	Moon	Type	1/J	0/W
11	Asteroid	Warp Factor	2/K	Hundred/X
12	Rock Debris	Sublight Speed	3/L	Thousand/Y
13	Ring	Forward	4/M	10.Thousand/Z
14	Dust Cloud	Aft	5	100.Thousand
15	Interstellar Gas	Port	6	Million
16	Ion Storm	Starboard	7	10 Million
17	Comet	Above	8	100 Million
18	Black Hole	Below	9	Billion
19	Beam Discharge	UFP	Armed	Stationary
20	Plasma Discharge	Star Fleet	Unarmed	Closing
21	Missile	Klingon	Shielded	Maintaining Distance
22	Explosion	Romulan	Unshielded	Retreating
23	Tractor/Pressor Beam	Orion	Scanning	Moving Laterally
24	Mine	Gorn	Transmitting	Moving Randomly
25	Total Power	Shields/Shield	Accelerating	Damaged
26	% Power	Engines/Movement	Constant Speed	Going Critical
27	Number Powered	Beam Weapons	Decelerating	Disintegrating
28	Damage/Damage To	Missile Weapons	Cloaked	Powerful
29	Point Ratio	Superstructure	Transporting	Moderate
30	Combat Efficiency	Crew	Sentient Life	Weak
31	Null Reading	Interference	Detected	Not Detected
32				

APPENDIX C: TRICORDER DATA STRIP ELEMENTS

TRICORDER DATA STRIP A: ENERGY SOURCES

Side A: Energy Sources

- 1) Heating Coil/Element
- 2) Transformer
- 3) Generator
- 4) Fire
- 5) Combustion Engine
- 6) Pump
- 7) Turbine
- 8) Current
- 9) Tide
- 10) Wind
- 11) Storm
- 12) Volcanic Eruption
- 13) Earthquake
- 14) Nuclear Reactor
- 15) Beam Weapon
- 16) Deflector Shield Generator
- 17) Impulse Engine
- 18) Warp Engine

Side B: Emissions, Transmissions, and Discharges

- 19) Nuclear Radiation/X-Rays
- 20) Microwaves
- 21) Radio Signal
- 22) Sub-Space Radio Signal
- 23) Jamming
- 24) Infra-red Emission
- 25) Ultra-violet Emission
- 26) Fluorescence/Phosphorescence
- 27) Laser Beam
- 28) Phaser Beam
- 29) Disruptor Beam
- 30) Plasma
- 31) Force Field
- 32) Shielding
- 33) Gravity Field
- 34) Magnetic Field
- 35) Explosion
- 36) Electrostatic Discharge

TRICORDER DATA STRIP B: SUBSTANCES

*Side A: Normal Metals, Special Metals,
and Industrial Crystals*

- | | |
|---------------------------|-------------------------------|
| 1) Iron | 10) Silver |
| 2) Copper | 11) Platinum |
| 3) Aluminum | 12) Mercury |
| 4) Lead | 13) Phosphorus |
| 5) Tin | 14) Pergium |
| 6) Nickel | 15) Topaline |
| 7) Zinc | 16) Ryetalyn |
| 8) Meteoritic Nickel-iron | 17) Dilithium Crystals |
| 9) Gold | 18) Special Silicate Crystals |

*Side B: Gemstones, Radioactives, and
General Mineral Substances*

- | | |
|-----------------------|---------------------|
| 19) Diamond | 28) Carbon |
| 20) Ruby | 29) Salt |
| 21) Emerald | 30) Sandstone |
| 22) Sapphire | 31) Granite |
| 23) Spician Flame Gem | 32) Limestone |
| 24) Uranium | 33) Lava |
| 25) Plutonium | 34) Nugget/Nodule |
| 26) Thorium | 35) Vein |
| 27) Sulphur | 36) Massive Deposit |

TRICORDER DATA STRIP C: SUBSTANCES

Side A: Processed Minerals and Metals

- | | |
|----------------------|--------------|
| 1) Bronze | 10) Concrete |
| 2) Brass | 11) Mortar |
| 3) White Metal Alloy | 12) Brick |
| 4) Steel | 13) Glass |
| 5) Titanium | 14) |
| 6) Plasteel | 15) |
| 7) Duraluminum | 16) |
| 8) Carborundum | 17) |
| 9) Ceramic | 18) |

Side B: Natural or Synthetic Organic Materials

- | | |
|----------------------|---------------------|
| 19) Crude Oil | 28) Solvent |
| 20) Asphalt | 29) Lubricant |
| 21) Petroleum Jelly | 30) Rubber |
| 22) Petroleum Fuel | 31) Synthetic Fiber |
| 23) Natural/Fuel Gas | 32) Animal Fiber |
| 24) Hard Plastic | 33) Plant Fiber |
| 25) Soft Plastic | 34) Paper |
| 26) Alcohol | 35) Wood |
| 27) Adhesive | 36) Coal |

TRICORDER DATA STRIP D: LIFE FORMS

Side A: Life Forms

- | | |
|------------------|---------------------|
| 1) Primate | 10) Spider |
| 2) Whale/Dolphin | 11) Wasp/Bee |
| 3) Cat | 12) Snail/Slug |
| 4) Dog/Wolf | 13) Worm |
| 5) Rodent | 14) Bacteria |
| 6) Bird Of Prey | 15) Virus |
| 7) Fowl | 16) Protozoa/Amoeba |
| 8) Snake | 17) Parasite |
| 9) Lizard | 18) Flying Parasite |

Side B: Life Support Readings

- | | |
|------------------------------|--------------------------|
| 19) Pure/Fresh Water | 28) Inert Gas Atmosphere |
| 20) Salt Water | 29) Food Substance |
| 21) Ice | 30) Protein |
| 22) Water Vapor | 31) Fat |
| 23) Standard Atmospheric Gas | 32) Carbohydrate |
| 24) Oxygen | 33) Plant Poison |
| 25) Carbon Dioxide | 34) Animal Poison |
| 26) Nitrogen | 35) Sedative |
| 27) Methane Atmosphere | 36) Stimulant |

TRICORDER DATA STRIP E: LIFE FORMS

Side A: Federation Races

- 1) Human
- 2) Andorian
- 3) Caitian
- 4) Edoan
- 5) Tellarite
- 6) Vulcanoid

Side B: Non-Federation Races

- 1) Imperial Klingon
- 2) Human-Klingon Fusion
- 3) Romulan
- 4) Orion
- 5) Green-skinned Orion Female
- 6) Gorn

APPENDIX D: SENSORS DATA STRIP ELEMENTS

SENSORS DATA STRIP A: STAR FLEET STARSHIPS

- 1) *Larson* Class VII Destroyer
- 2) *Reliant* Class X Cruiser
- 3) *Constitution* Class XII Cruiser
- 4) *Enterprise* Class XI Cruiser

SENSORS DATA STRIP B: KLINGON STARSHIPS

- 1) *D-7* Class VIII Cruiser
- 2) *D-10* Class X Cruiser
- 3) *D-18* Class VII Destroyer
- 4) *K-23* Class VII Escort

SENSORS DATA STRIP C: ROMULAN STARSHIPS

- 1) *Bird Of Prey* Class VI Cruiser
- 2) *Graceful Flyer* Class V Scout/Courier
- 3) *Gallant Wing* Class X Cruiser
- 4) *Winged Defender* Class XII Cruiser

SENSORS DATA STRIP D: OTHER STARSHIPS

- 1) Orion *Wanderer* Class III Blockade Runner
- 2) Orion *Lightning* Class III Blockade Runner
- 3) Gorn *BH-2* Class XII Battleship
- 4) Gorn *MA-12* Class V Cruiser

SENSORS DATA STRIP E: TRANSPORTS

- 1) *Sunshine* Class IX Passenger Liner
- 2) *Laweya* Class IX Commercial Transport
- 3) *Monarch* Class IX Tug
- 4) *Mission* Class II Courier/Commercial Transport

APPENDIX E: STAR TYPES

Type	Color	Temperature (°K)	Notes
O	Blue	50,000	Includes giants
B	Blue	15,000	Includes dwarves
A	Blue/White	9,500	Includes dwarves
F	Blue/White	6,600	
G	White/Yellow	5,500	Includes giants and supergiants
K	Orange/Red	4,400	Includes giants
M	Red	3,400	Includes giants and dwarves

APPENDIX F: PLANET TYPES

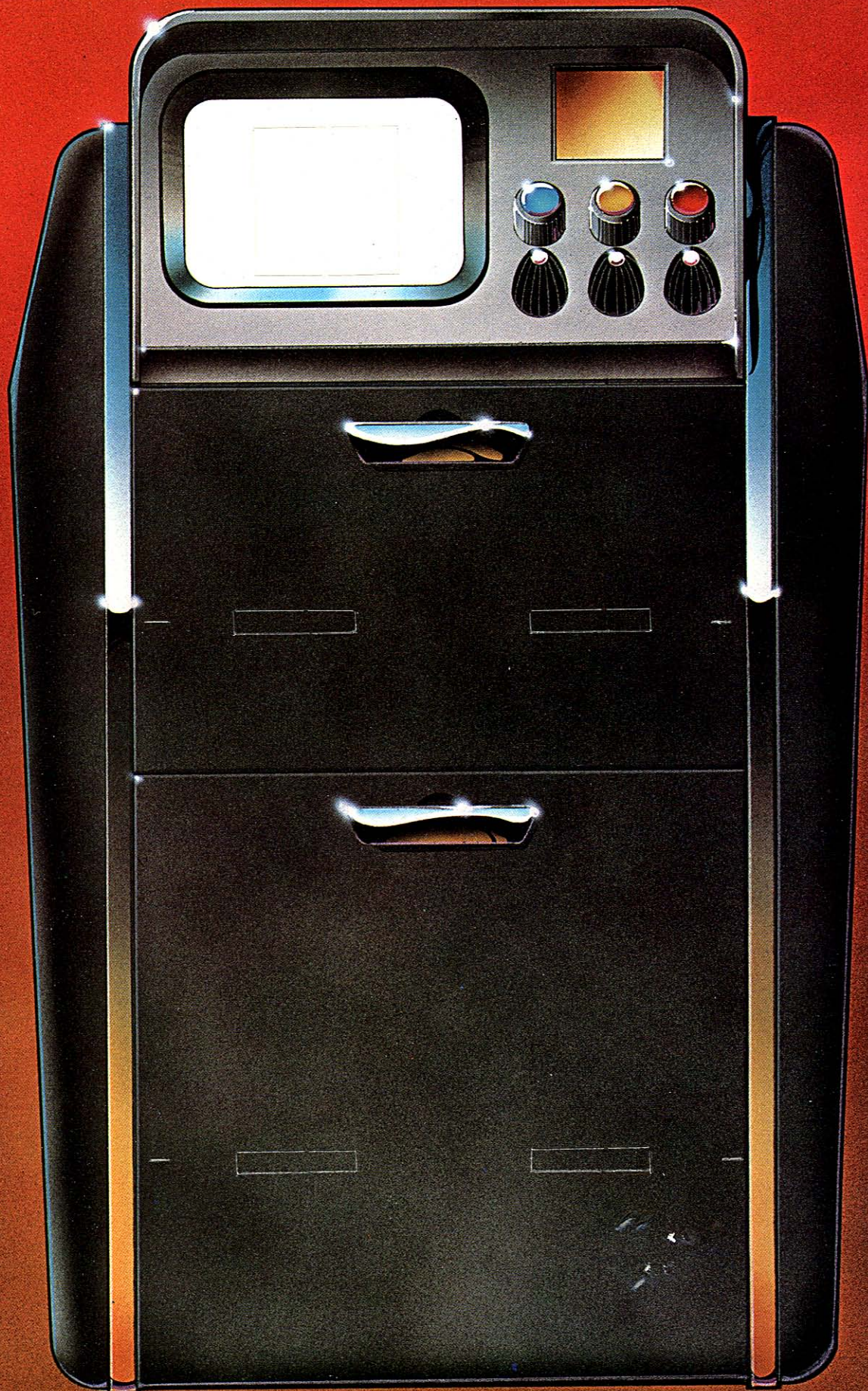
After Geoffrey Mandel

Type	Atmosphere	Surface	Notes	Example
A	Reducing	Tenuous, if present	Gas giant, radiating heat	Jupiter
B	Reducing	Tenuous, if present	Gas giant, not radiating heat	Neptune
C	Reducing	Silicate rock; iron	Dense atmosphere with high surface temperature	Venus
D	Reducing	Silicate rock; metals	Small, young planet with fluid, very dense atmosphere	Excalbia
E	Reducing/oxidizing	Silicate rock; metals	Large, molten core	Janus VI
F	Oxidizing	Silicate rock; metals	Very young planet with limited free oxygen	Delta-Vega
G	Oxidizing	Ferrosilicate rock	Thin atmosphere, little water	Rigel XII
H	Variable	Silicate rock	Seismic activity normal	Gothos
I	Tenuous, if present	Nickel-iron/Silicate rock	Asteroid	Ceres
J	Very tenuous inert gas, if present	Silicate rock	Moon	Luna
K	Tenuous	Silicate rock, limited water	Habitable with pressure domes	Mars
L	Oxidizing	Silicate rock, free water	Limited seismic activity	Psi 2000
M	Oxidizing	Silicate rock, free water	Seismic activity normal	Terra
N	Oxidizing	Liquid, little rock		Argo

APPENDIX G: WARSHIP CLASSES

F = UFP K = Klingon R = Romulan G = Gorn

Ship Class	Mass (mt)	Cutter	Gunboat	Monitor	Courier	Scout	Escort	Destroyer	Frigate	Cruiser	Battleship
I	0 - 5	FKRG			FKRG	FG					
II	5 - 15	FKRG	FKRG		FKRG	FG					
III	15 - 25	G	FKRG	KRG	FKRG	FKRG					
IV	25 - 40		KG	KRG	FRG	FKRG	R	RG			
V	40 - 60		G	KRG	RG	FKRG	KR	FKRG		RG	
VI	60 - 80			G		FKG	KR	FKRG		RG	
VII	80 - 100					FG	KR	FKRG	FK	RG	
VIII	100 - 120					FG	K	FKG	FK	FKRG	
IX	120 - 140							G	FK	FKRG	
X	140 - 160							G	FK	FKRG	
XI	160 - 180								FK	FKRG	
XII	180 - 210									FRG	FKG
XIII	210 - 240									RG	FKG
XIV	240 - 270									G	FKRG
XV	270 +										RG



Tricorder Strip A Energy Sources

3. Generator	6. Pump	9. Tide	12. Volcanic Eruption	15. Beam Weapon	18. Warp Engine
2. Transformer	5. Combustion Engine	8. Current	11. Storm	14. Nuclear Reactor	17. Impulse Engine
1. Heating Coil/Element	4. Fire	7. Turbine	10. Wind	13. Earthquake	16. Deflector Shield Generator
34. Magnetic Field	31. Force Field	28. Phaser Beam	25. Ultra-violet Emission	22. Sub-Space Radio Signal	19. Nuclear Radiation/X-Rays
35. Explosion	32. Shielding	29. Disruptor Beam	26. Fluorescence/Phosphorescence	23. Jamming	20. Microwaves
36. Electrostatic Discharge	33. Gravity Field	30. Plasma	27. Laser Beam	24. Infra-red Emission	21. Radio Signal

Tricorder Strip A Emissions, Transmissions, and Discharges

A

B

Tricorder Strip B Normal Metals, Special Metals, and Industrial Crystals

3. Aluminum	6. Nickel	9. Gold	12. Mercury	15. Topaline	18. Special Silicate Crystals
2. Copper	5. Tin	8. Meteoritic Nickel-Iron	11. Platinum	14. Pergium	17. Dilithium Crystals
1. Iron	4. Lead	7. Zinc	10. Silver	13. Phosphorus	16. Rytalyn
34. Nugget/Nodule	31. Granite	28. Carbon	25. Plutonium	22. Sapphire	19. Diamond
35. Vein	32. Limestone	29. Salt	26. Thorium	23. Spician Flame Gem	20. Ruby
36. Massive Deposit	33. Lava	30. Sandstone	27. Sulphur	24. Uranium	21. Emerald

Tricorder Strip B Gemstones, Radioactives, and General Mineral Substances

A

B

Tricorder Strip C Processed Minerals and Metals

3. White Metal Alloy	6. Plasteel	9. Ceramic	12. Brick	15.	18.
2. Brass	5. Titanium	8. Carborundum	11. Mortar	14.	17.
1. Bronze	4. Steel	7. Duraluminum	10. Concrete	13. Glass	16.
34. Paper	31. Synthetic Fiber	28. Solvent	25. Soft Plastic	22. Petroleum Fuel	19. Crude Oil
35. Wood	32. Animal Fiber	29. Lubricant	26. Alcohol	23. Natural/Fuel Gas	20. Asphalt
36. Coal	33. Plant Fiber	30. Rubber	27. Adhesive	24. Hard Plastic	21. Petroleum Jelly

Tricorder Strip C Natural or Synthetic Organic Materials

A

B

B

Tricorder Strip D Life Forms

A

21. Ice	24. Oxygen	27. Methane Atmosphere	30. Protein	33. Plant Poison	36. Stimulant
20. Salt Water	23. Standard Atmospheric Gas	26. Nitrogen	29. Food Substance	32. Carbohydrate	35. Sedative
19. Pure/Fresh Water	22. Water Vapor	25. Carbon Dioxide	28. Inert Gas Atmosphere	31. Fat	34. Animal Poison
16. Protozoa/Amoeba	13. Worm	10. Spider	7. Fowl	4. Dog/Wolf	1. Primate
17. Parasite	14. Bacteria	11. Wasp/Bee	8. Snake	5. Rodent	2. Whale/Dolphin
18. Flying Parasite	15. Virus	12. Snail/Slug	9. Lizard	6. Bird of Prey	3. Cat

B







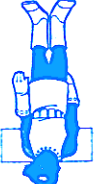





Tricorder Strip D Life Support Readings

A

B

Tricorder Strip E Federation Races

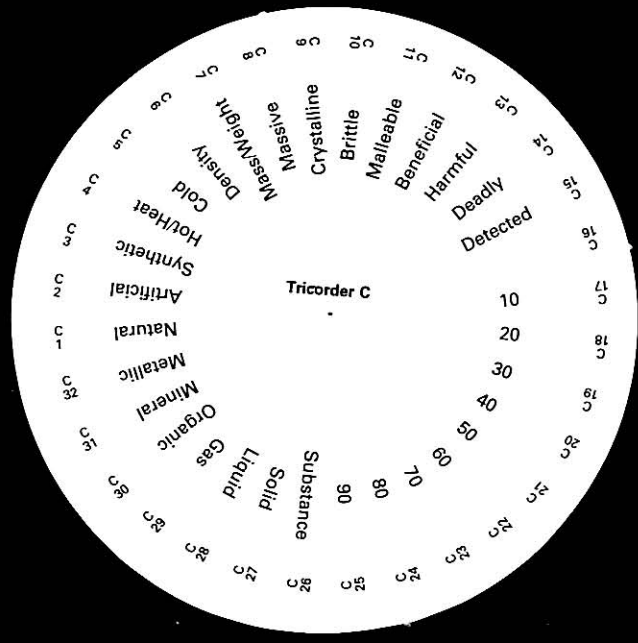
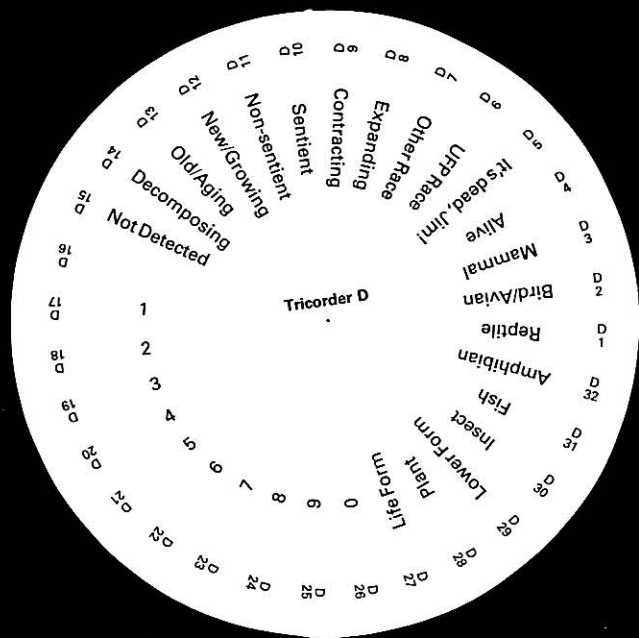
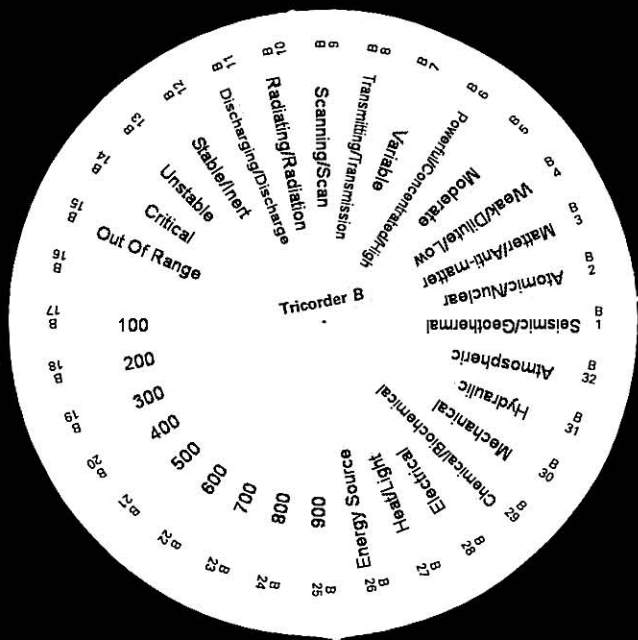
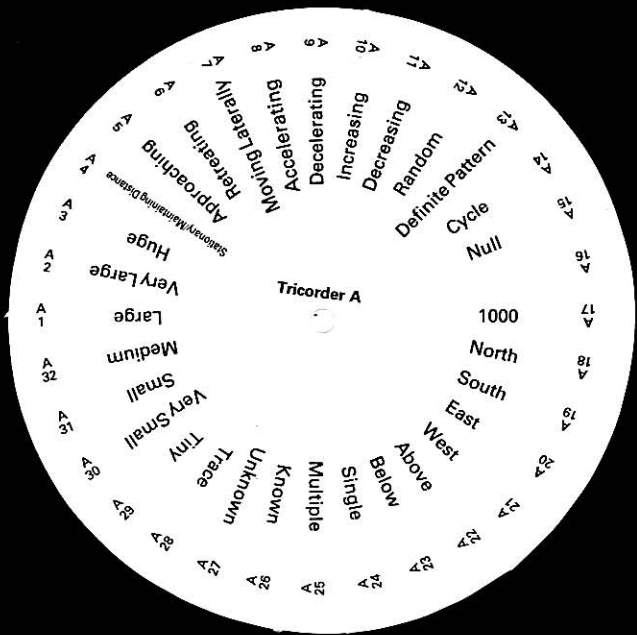
A

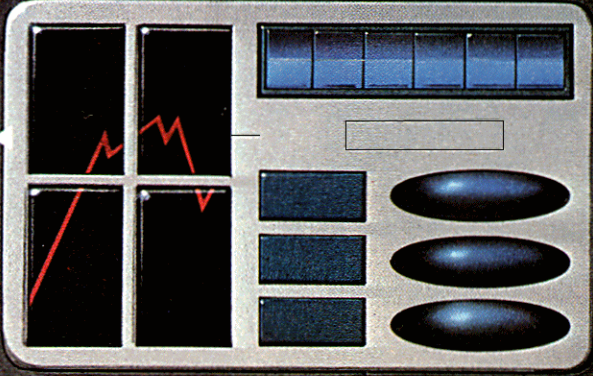
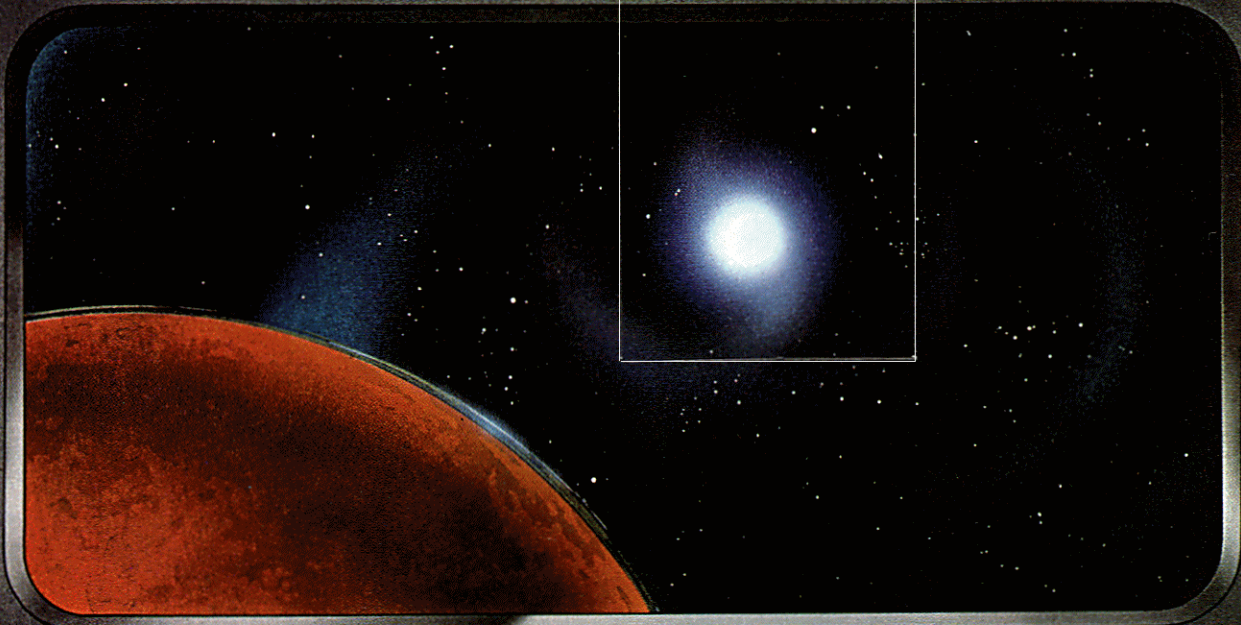
					
1. Human	2. Andorian	3. Caitian	4. Edoan	5. Tellarite	6. Gorn
					
6. Gorn	5. Green-skinned Orion Female	4. Orion	3. Romulan	2. Human-Klingon Fusion	1. Imperial Klingon

B

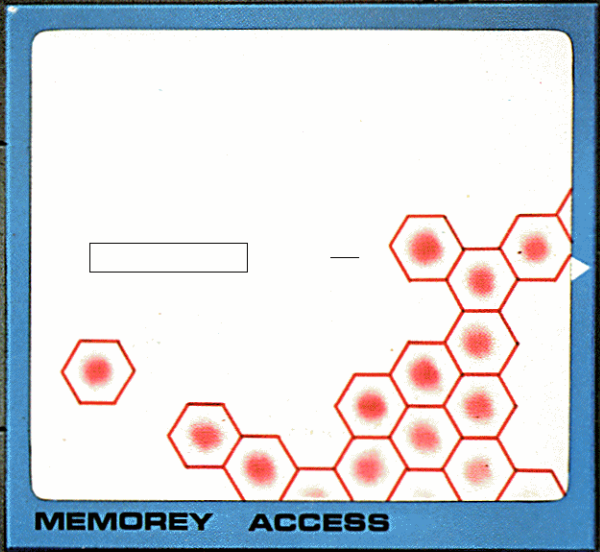
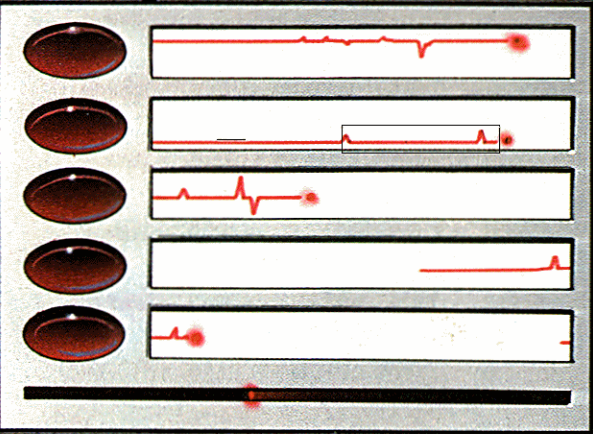
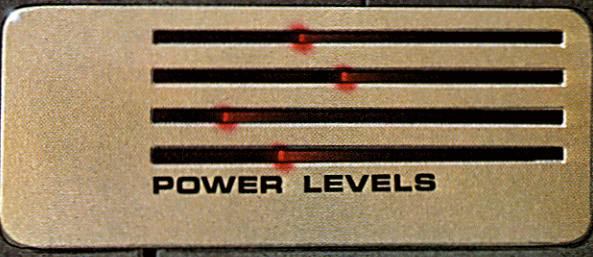
Tricorder Strip E Non-Federation Races

A



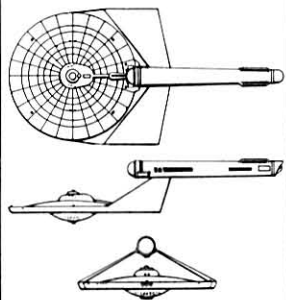


REMOTE PROBES

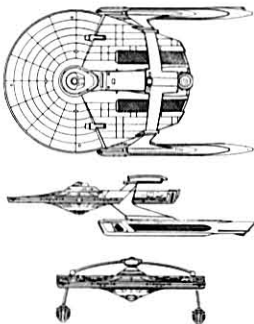
A control panel with a silver and gold metallic finish. It features a large, glowing orange sphere in the center, resembling a planet or a probe. To the right of the sphere is a grid of 15 black circular buttons arranged in a roughly triangular pattern. Below the sphere is a blue rectangular slot.

Sensors Strip A
Star Fleet Starships

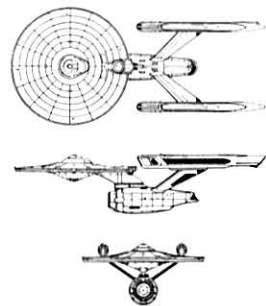
Larson Class VII Destroyer



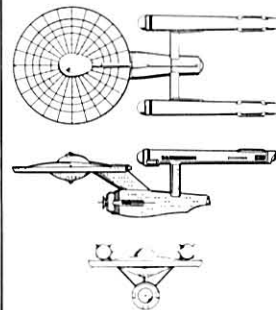
Reliant Class X Cruiser



Enterprise Class XI Cruiser

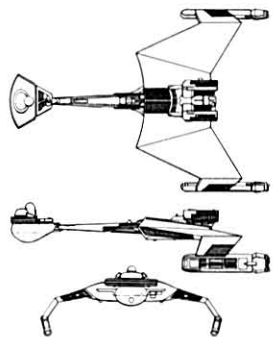


Constitution Class XII Cruiser

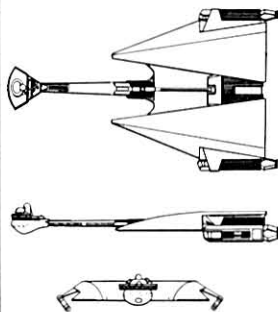


Sensors Strip B
Klingon Starships

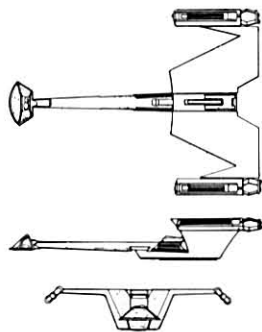
D-7 Class VIII Cruiser



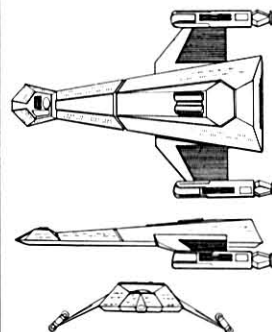
D-10 Class X Cruiser



D-18 Class VII Destroyer

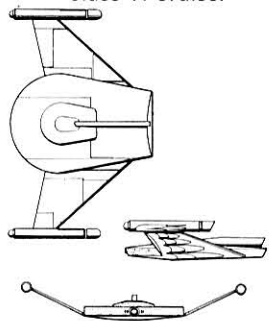


K-23 Class VII Escort

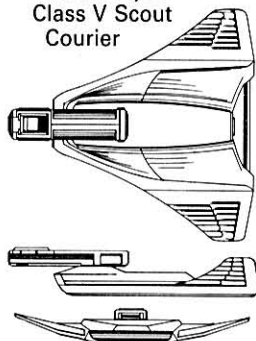


Sensors Strip C
Romulan Starships

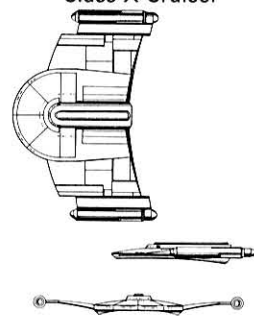
Bird Of Prey Class VI Cruiser



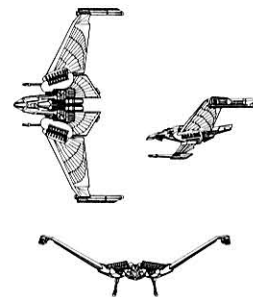
Graceful Flyer Class V Scout Courier



Gallant Wing Class X Cruiser

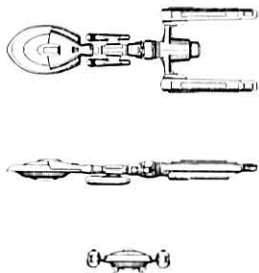


Winged Defender Class XII Cruiser

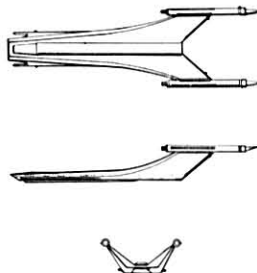


Sensors Strip D
Orion and Gorn
Starships

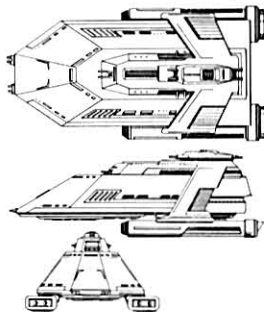
Orion Wanderer Class III
Blockade Runner



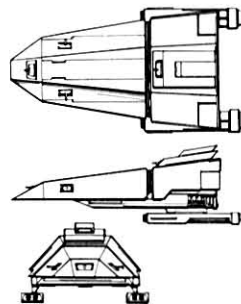
Orion Lightning Class III
Blockade Runner



Gorn BH-2
Class XII Battleship

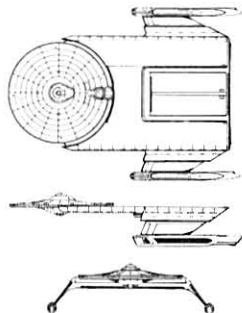


Gorn MA-12
Class V Cruiser

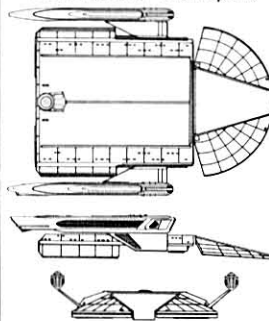


Sensors Strip E
Transports

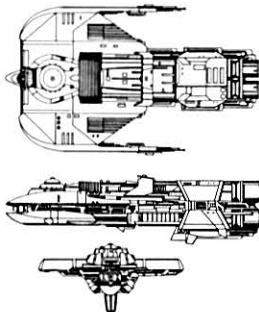
Sunshine Class IX
Passenger Liner



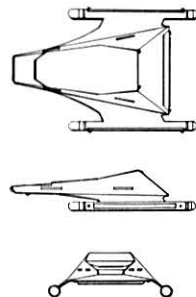
Laweya Class IX
Commercial Transport

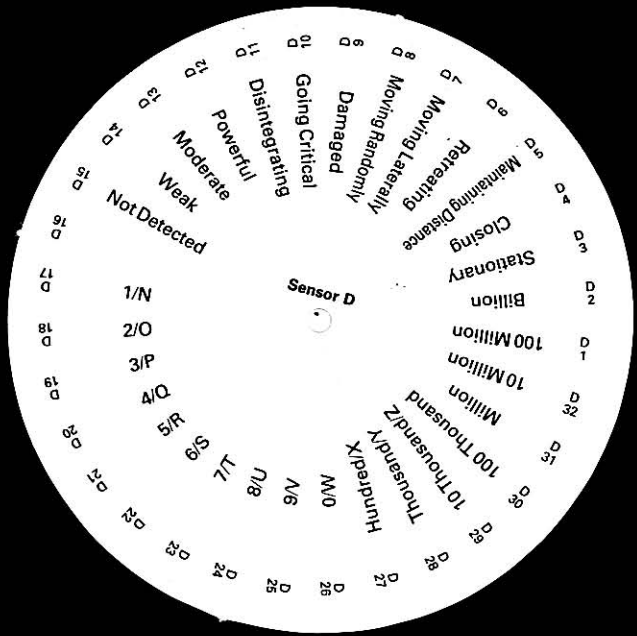
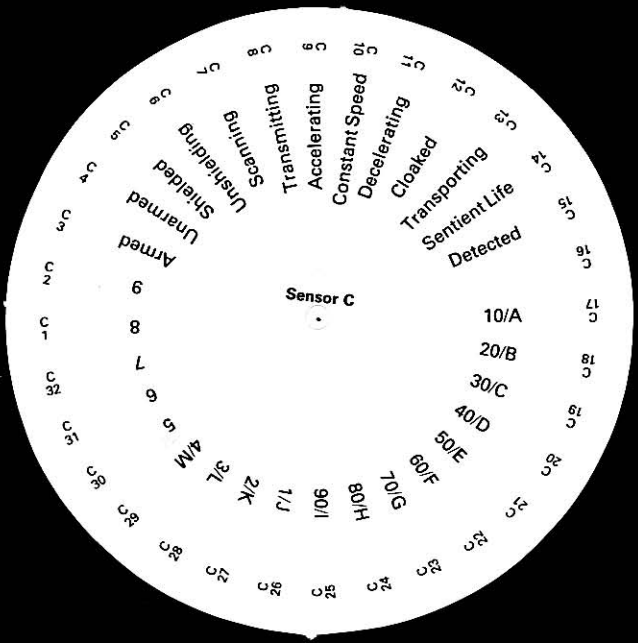
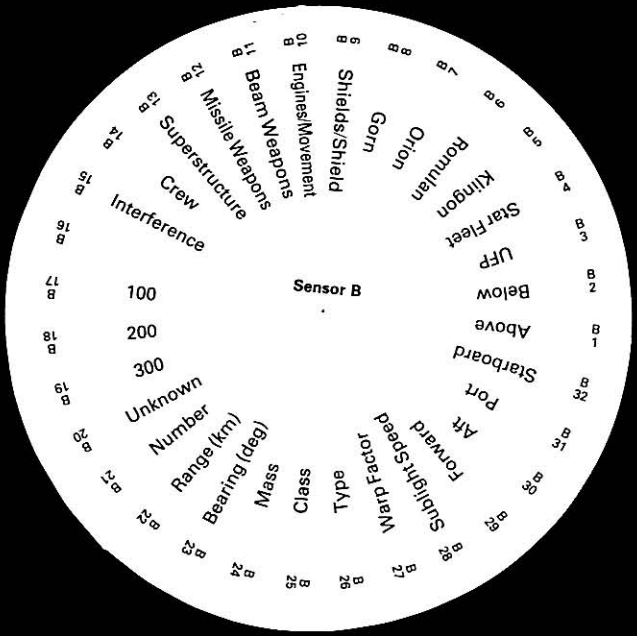
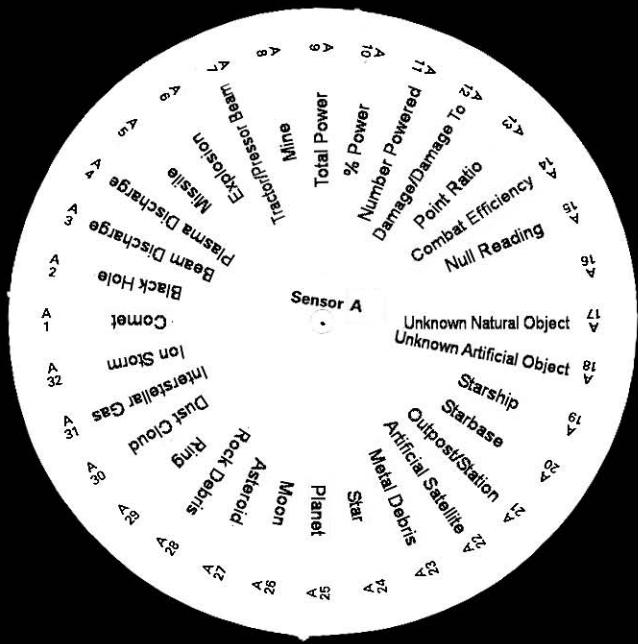


Monarch Class IX Tug



Mission Class II Courier/
Commercial Transport





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The Tricorder/Sensors Display is a 7" x 10" full color display panel depicting a Tricorder on one side and the Starship Sensors Console on the other. Information is displayed by adjusting data wheels and reading the results in the various monitors. What's more there are coded strips that may be inserted to display pictures or images of the objects being scanned.

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